

Wind Resource Assessment

- Main objective is to identify potentially windy areas that also possess other desirable qualities for wind project development
- Steps in the siting process:
 - » Identification of potential wind development areas
 - » Inspection and ranking of candidate sites
 - » Selection of actual tower location(s) within the candidate sites





Wind Resource Assessment Steps

- Preliminary area identification
- Ranking of candidate sites
- Selection of tower location(s)
- Development of a monitoring plan
- Quality assurance





Preliminary Area Identification

- Objective is to determine or verify whether sufficient wind resources exist within an area to justify further site-specific investigation
 - » use of existing wind data
 - » topographic indicators
 - » field surveys
 - flagged trees
 - accessibility
 - land use
 - obstructions
 - available land area







Ranking of Candidate Sites

- Objective is to compare areas to distinguish relative development potential
- In addition to accessibility, land use, obstructions, and available land area, siting criteria could include:
 - » proximity to transmission lines
 - » potential impact on local aesthetics
 - » cellular phone service reliability for data transfers
 - » potential avian interactions





Selection of Tower Location(s)

- Objectives of this step in the siting process are to:
 - » obtain representative data for estimating the performance and/or economic viability of selected turbines, and
 - » screen for potential wind turbine installation sites

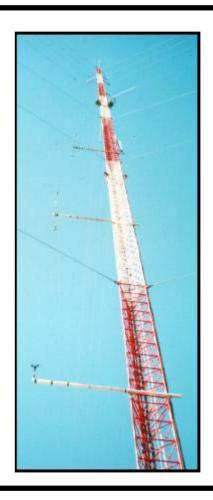




Tower Types



Tiltup's to Lattice Towers







Tower Placement Guidelines

- Select an open area free of obstructions
- Select a location that is representative of the majority of the site
 - » in complex terrain, multiple towers may be required
- Other issues
 - » permitting
 - » lease agreements





For Further Information

WIND RESOURCE ASSESSMENT HANDBOOK

Fundamentals for Conducting a Successful Monitoring



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NREL Subcontract No. TAT-5-15283-01

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Web Site

http://www.nrel.gov/wind/wind_pubs.html

